Electronic Supplementary Information for

Efficiencies of resonant and nonresonant multiphoton ionization in the femtosecond region

Hiroaki Kouno[a] and Totaro Imasaka[*a,b]

[a] Department of Applied Chemistry, Graduate School of Engineering, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka 819-0395, Japan.

[b] Division of Optoelectronics and Photonics, Center for Future Chemistry, Kyushu University, 744 Motooka, Nishi-ku, Fukuoka 819-0395, Japan.

*Author to whom correspondence should be addressed: imasaka@cstf.kyushu-u.ac.jp

Table S1 The slope for the dependence of the signal intensity on the laser pulse energy and the signal intensity measured at 6 μJ. The compounds would be ionized through a 1RE2I process when chlorobenzene, 1-chloronaphthalene, and N,N-dimethylalanine were measured at 267 and 302 nm.

	Laser wavelength (nm)	Pulth width (fs)	Slope	Signal intensity (mV)
Chlorobenzene	267	700	2.01	80
		90	1.94	170
1-Chloronaphtalene	267	700	1.90	85
		90	1.84	110
N,N-Dimethylaniline	267	700	1.89	200
		90	1.89	250
	302	600	1.63	230
		75	1.89	240

Table S2 The slope for the dependence of the signal intensity on the laser pulse energy and the signal intensity measured at 6 μJ. The compounds would be ionized through a 1NR2I process when 1-chloronaphthalene and N,N-dimethylalanine were measured at 302 and 345 nm, respectively.

	Laser wavelength (nm)	Pulth width (fs)	Slope	Signal intensity (mV)
1-Chloronaphtalene	302	600	2.2	16
		75	2.2	94
N,N-Dimethylaniline	345	600	2.6	2
		75	2.2	11

Table S3 The slope for the dependence of the signal intensity on the laser pulse energy and the signal intensity measured at 6 μJ. The compounds would be ionized through a 1NR3I process when chlorobenzene was measured at 302 and 345 nm, and 1-chloronaphthalene was measured at 345 nm.

	Laser wavelength (nm)	Pulth width (fs)	Slope	Signal intensity (mV)
Chlorobenzene	302	600	2.8	2.8
		75	3.0	54
	345	600	2.8	25
		75	2.7	650
1-Chloronaphthalene	345	600	2.5	5
		75	2.6	75